View metadata, citation and similar papers at core.ac.uk
brought to you by CORE
provided by Elsevier - Publisher Connector

of *n*-alkanes and in the yeast products, usually *Saccharomycopsis (Candida) lipolytica*. Toxicity testing of products used for animal food is clearly very important, although few problems are suggested to date.

Alan Wiseman

Gel Chromatography Theory, Methodology, Applications

by T. Kremmer and L. Boross
Wiley; Brisbane, Chichester, New York, Toronto, 1979
300 pages. £16.50

As indicated in its title this book deals with the theory and practice of gel chromatography which is currently among the most used of separation methods. Although introduced primarily for separation of protein and other molecules of biochemical interest the method is now of considerable importance for characterisation of hydrocarbons and synthetic polymers. This aspect is well covered.

The book is divided into three sections of roughly equal length: theory, methods and techniques and finally applications of gel chromatography. As an introduction to the first section the authors have brought together a wide ranging collection of data on the properties of most if not all the gel media commercially available in bead form. This data hardly justifies the description of 'theory' but will, in fact, be extremely useful to experimentalists needing to choose the optimum medium for a particular separation.

After describing the main theories which in varying degree have contributed towards present understanding of the molecular mechanisms underlying this type of chromatography, certain of the empirical relationships are summarised. A useful table gives 12 equations which have been proposed for the relationships between elution volumes and molecular weight of solutes as diverse as proteins, nucleotides, polysaccharides and polystyrenes. Associated with this table are described many of the factors which are responsible for the different elution volumes of substances of the same molecular weight.

The most impressive aspect of the book is quite simply the immense amount of data that the authors have collected together. Matters included and presented either in one of the 47 tables on 133 figures range from the very practical, e.g., table 20, in which are compared particle sizes measured in μm an sieve meshes which allow their passage, to the much more theoretical such as 'effective chain length' values of selected atoms (table 36). Both theory and practice are discussed clearly and in sufficient detail to permit intelligent choice of methods likely to be suitable for particular applications. Also helpful is the list of some 900 references. Even the casual reader will soon notice that the translation leaves something to be desired. This hardly matters when it concerns choice of words not likely to lead to misunderstanding. Occasionally, however, there are sentences which may be imcomprehensible unless the reader is so well informed as to know already what the authors are trying to communicate. With this warning it is possible to recommend the book as an aid to the understanding and practice of gel chromatography.

A. H. Gordon